

ABSTRACT OF THE DISCLOSURE

A thermal barrier coating system comprising a metal substrate, a metal bonding layer and a ceramics thermal barrier layer wherein the ceramics thermal barrier layer has a columnar structure of a stabilized zirconia containing a stabilizer or a stabilized $\text{ZrO}_2\text{-HfO}_2$ solid solution containing a stabilizer, and comprises 0.1 to 10 mol% of lanthanum oxide.